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Powers Co.

LAND USE
in
PROWERS COUNTY, COLORADO



Based on
a
Field Survey

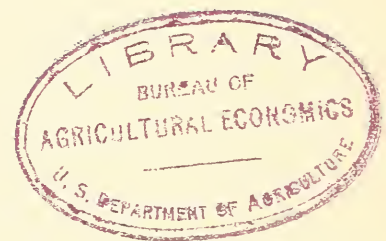
Land Utilization Program
Bureau of Agricultural Economics

April 1, 1938

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James E. Hester, Regional director

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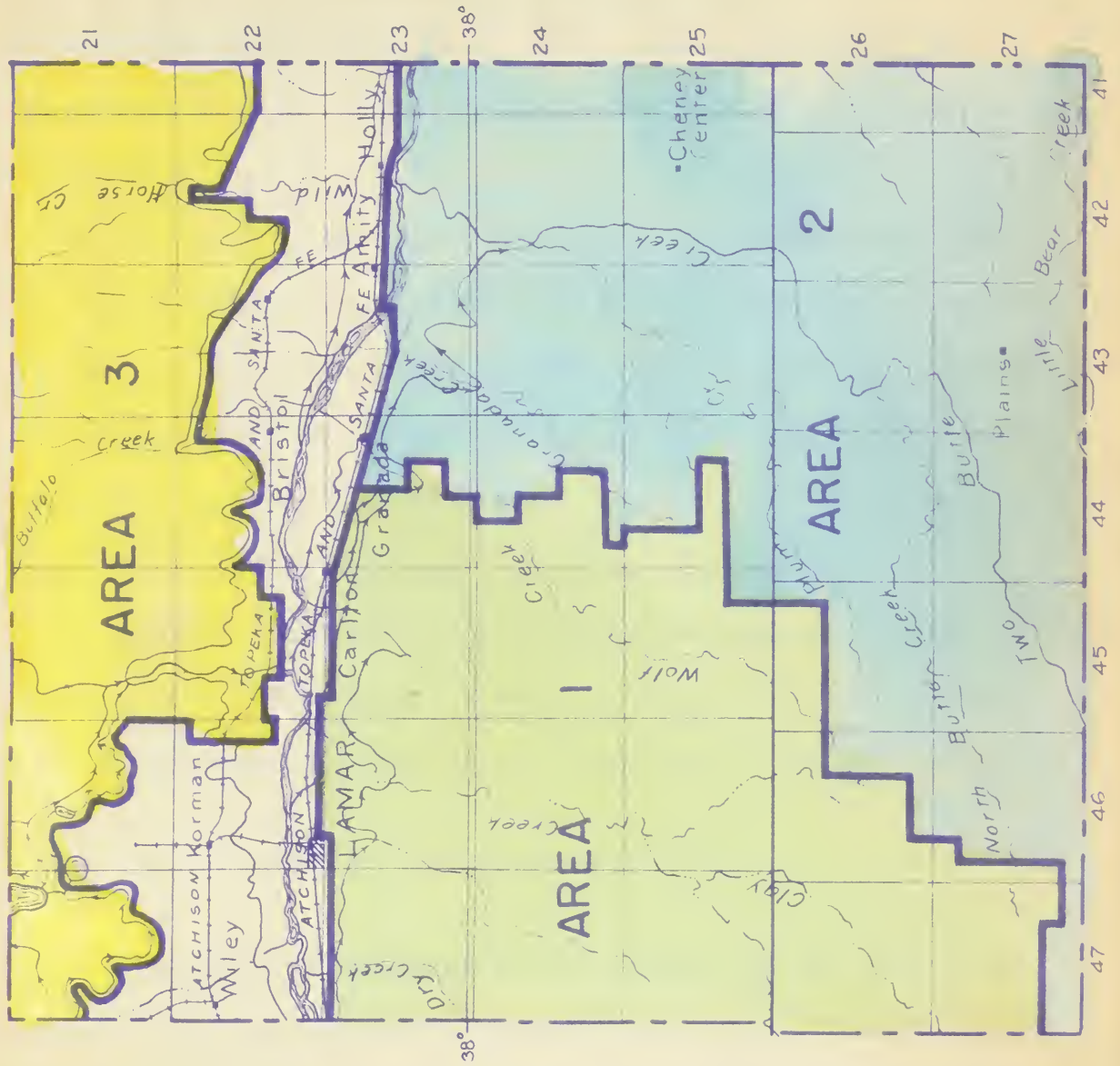
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PROWERS COUNTY COLORADO



NEED FOR A COMPREHENSIVE LAND USE SURVEY

In 1936, operating under funds allotted by the Resettlement Administration, a comprehensive land use survey was made of the dry land area in Prowers county. This county was one of the 14 southeastern Colorado counties designated in the "dust bowl" area of the state.

In this county, as in the other counties of this area, the continued drought had its disastrous effects upon the farm operators; few crops had been raised for several years; livestock operators had been forced to sell large numbers of their stock; the number of people on relief rolls was large and a considerable number of persons were leaving the county, seeking new homes.

No adequate inventory of the natural and human resources of the county existed. It was felt that this information was necessary to determine what land use and social adjustments were necessary.

METHOD OF CONDUCTING THE SURVEY

In conducting this survey every operator in the county was contacted and a schedule of his operations taken. In addition to the schedule*, a plat was made of all land under his control. On this plat the actual land use was designated. This information was then transferred to a large county map. A complete land use picture of the entire county was thus obtained. When this information had all been gathered in the field, it was sent to the regional office at Amarillo and placed in final form.

*Sample schedule in Appendix B

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1010 spectrophotometer. The concentration of chlorophyll was expressed as $\mu\text{g mL}^{-1}$ of the sample.

DEFINITION OF TERMINOLOGY

1. Land within operating units:

Under some type of organized management. Land that is either owned or leased by the operator.

2. Land outside operating units:

Not under any type of organized management.

3. Crop land:

Land planted to crops at the time the survey was made.

4. Pasture land:

Land that maintains its native cover.

5. Idle land:

Plowed land that is under organized management, but is not being utilized for growing of crops.

6. Fallow land:

Land that is tilled and allowed to lay idle prior to seeding wheat or other crops.

7. Open pasture:

Land that maintains its native cover and is not under organized management.

8. Abandoned crop land:

Land that has been plowed and is not under organized management.

9. Small grain:

Small grain is virtually all wheat and barley.

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defined by the equation

where α is a real number

and β is a complex number

with $|\beta| < 1$

and γ is a real number

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10. Livestock operator:

A farm operator whose major income is from the sale of livestock.

11. Crop operator:

A farm operator whose major income is from the sale of crops.

12. General operator:

A farm operator whose income is approximately 50 percent from livestock and 50 percent from crops.

13. Non-resident owner:

An individual who owns land within a county, but who resides in another county, state or foreign country.

14. Resident owner:

An individual who owns the land upon which he resides.

15. Corporation owner:

Land that is owned by a corporation (insurance companies, railroads, etc.).

16. Non-resident operator in the county:

Operator who farms land in the county of his residence but does not reside on the farm.

17. Non-resident operator out of county:

Operator who farms land in a county other than that of his residence.

18. Resident operator:

Operator who lives on the farm.

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COOPERATION WITH EXTENSION SERVICE

The Colorado Extension Service held a county planning meeting in Prowers county on February 10, 1938. The purpose of the meeting was to discuss with local farmers a program of long range agricultural planning. As a preliminary to this discussion some of the material collected by the land use survey was presented by a member of the Bureau of Agricultural Economics.

The Extension Service has given permission to include the result of the planning meeting in this report. (Appendix C)

CLIMATE

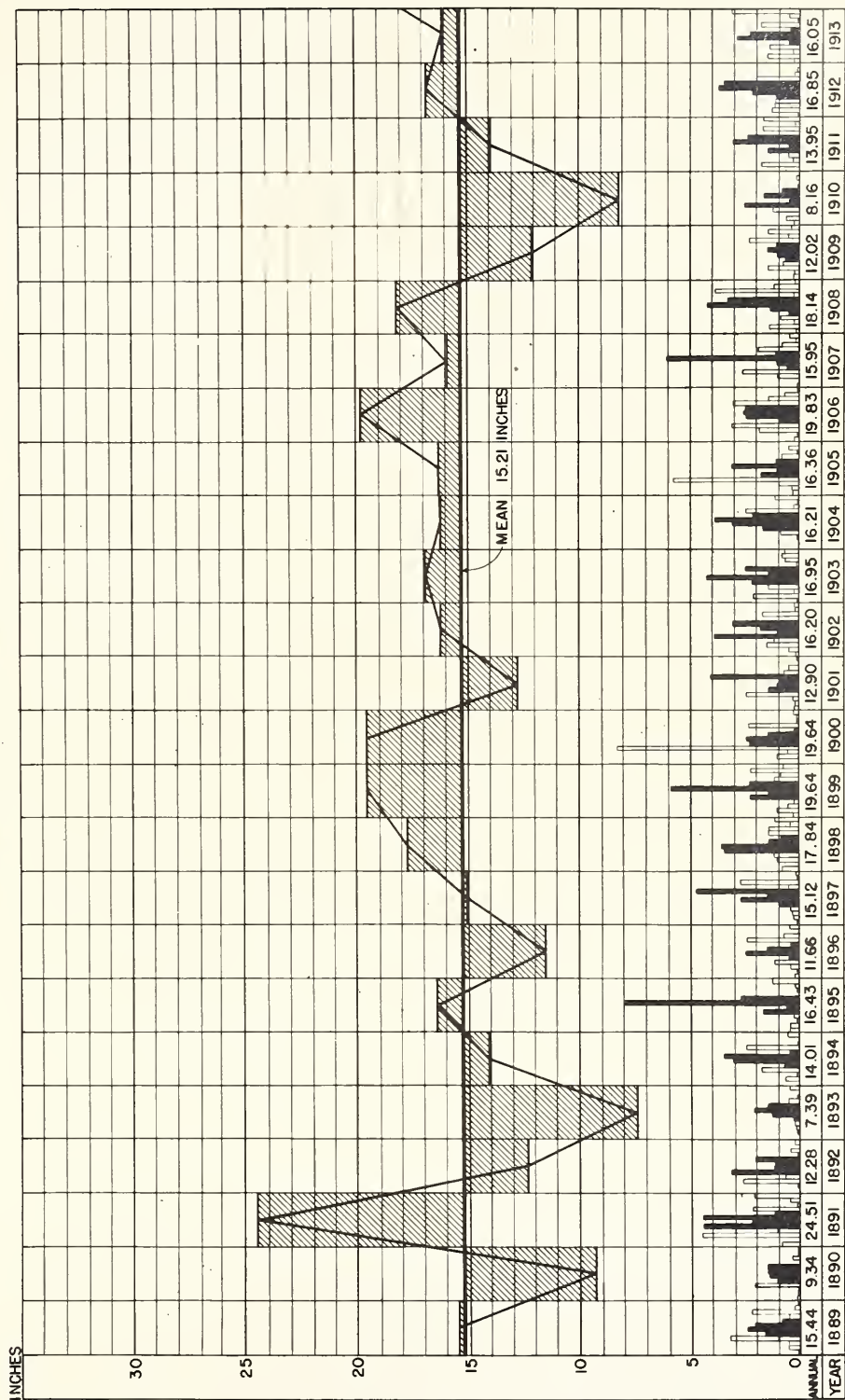
Climate in Prowers county is typical of that found throughout the high plains area. It is a region of light rainfall, with several years of drought often occurring in succession. Temperatures vary greatly as the seasons change. Although summer temperatures are high during the day, nights are cool. In addition, a brisk wind movement tempers the heat. In winter, temperatures down to zero are not uncommon. However, low humidity prevails, making the cold less intense.

Rainfall is erratic. Weather records from Lamar, taken over a 48 year period, show an annual average of 15.31 inches. The driest year recorded was in 1893 with 7.39 inches; the wettest in 1891 with 24.51 inches. (See factual table and rainfall chart)

ANNUAL AND MONTHLY PRECIPITATION AT LAMAR

PROWERS COUNTY, COLORADO

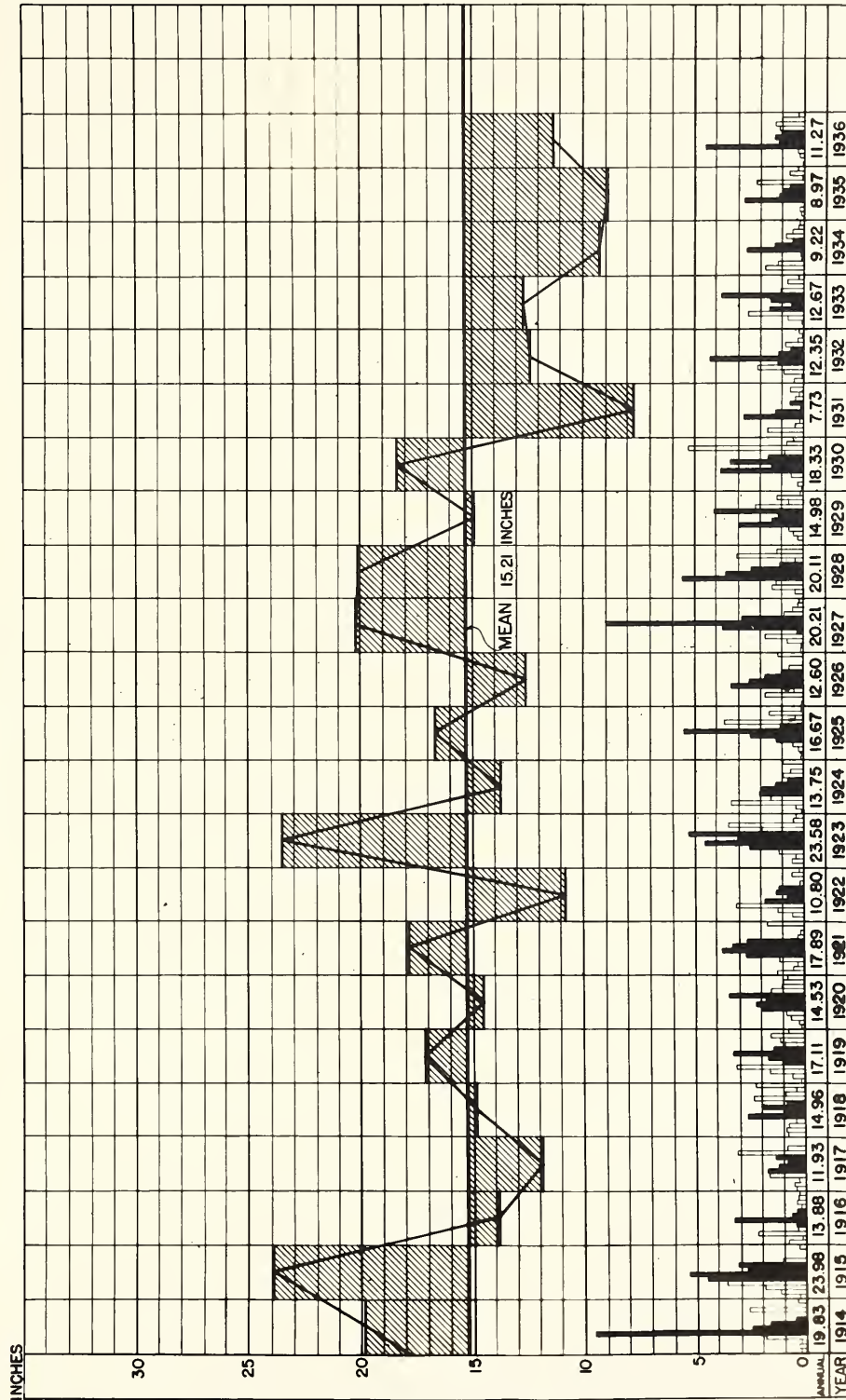
SOURCE: U.S. WEATHER BUREAU



ANNUAL AND MONTHLY PRECIPITATION AT LAMAR

PROWERS COUNTY, COLORADO

SOURCE: U.S. WEATHER BUREAU



Climatic Data
(Station at Lamar, Colorado)

Source: U. S. Weather Bureau															
:	: Jan.:	Feb.:	Mar.:	Apr.:	May :	June:	July:	Aug.:	Sept:	Oct.:	Nov:	Dec.:	Ann.:	Seas.:	Year :
<u>Precipitation</u>															
Annual m. ave.	.24	.54	.82	1.62	2.16	2.16	2.77	1.94	1.21	.95	.45	.45	15.31		48
No. days with															
.01 in. or more	2	3	3	5	6	6	7	6	3	3	2	3	49		36
Minim. mthly.	-	-	-	T	.10	.52	.13	.32	-	-	-	-			42
Maxim. mthly.	1.27	2.04	4.61	6.34	9.59	5.38	9.00	5.35	3.67	5.22	2.37	3.16			42
Driest year	T	.11	.16	.23	.38	1.40	2.17	1.62	.69	.11	T	.52	7.39		1893
Wettest year	.90	-	4.61	1.16	4.55	2.29	4.51	1.34	2.31	.16	.57	2.11	24.51		1891
<u>Snow</u>															
Ave. snowfall	2.5	5.8	3.9	2.7	T	-	-	-	T	.7	2.8	5.1	23.5		33
(inches)															
<u>Temperature</u>															
Mean	31.1	34.8	44.3	54.0	62.0	73.3	77.8	76.7	68.8	55.6	42.0	31.7	54.4		36
Mean maxim.	47.7	52.1	61.5	70.6	77.0	89.4	93.7	93.3	86.4	73.7	59.4	47.1	71.0		36
Mean minim.	14.5	17.4	27.1	37.5	47.1	57.2	62.0	60.1	51.1	37.5	24.7	16.3	37.7		36
Highest	82	82	94	95	103	108	110	107	106	99	89	79	110		37
Lowest	-17	-30	-13	8	20	33	42	44	27	8	-4	-21	-30		37
<u>Wind</u>															
Prevailing wind															
direction	W	NE	W	N	SE	NE	NE	SW	NE	NE	NE	N			21
Ave. hourly wind															
velocity	7.8	8.6	9.1	10.6	10.0	9.2	7.9	7.9	8.2	8.0	7.0	7.2	8.5		6

FROST DATA

Average date of last killing frost in Spring - April 26
 Average date of first killing frost in Autumn - October 9
 Average length of growing season - 166 days
 Latest date of killing frost in Spring - May 17
 Earliest date of killing frost in Autumn - September 17

TOPOGRAPHY

The topography can best be understood by reference to the area map of the county that accompanies this report. Area 1, which covers about half the western part of the county north to the Arkansas river, is rolling to fairly rough. This area is used chiefly as range land. Area 2, taking in the southeast corner and a strip along the eastern portion of the county to the Arkansas river, is more level than Area 1. Most of the dry land farming is done in this area. Area 3, which includes all of the land north of the Arkansas river that is not under irrigation, is rolling in the western part but gradually levels out as the eastern section is reached. The western part of this area is used for grazing while the eastern section has some land which is used for crop production.

POPULATION

Population figures given in the accompanying table are for the county as a whole. The rural population of the county has greatly decreased since 1930. The land use survey in 1936 showed 390 resident operators in the county; and a total of 1447 families. Recent careful estimates by officials in the county place the rural population figures at about one half the 1936 count.

Population Trends

1890-1930

		Source: Census	
		P o p u l a t i o n	
Year	Number	Index	
		(1890 as base)	
1890	1,969	100	
1900	3,766	191	
1910	9,520	483	
1920	13,845	703	
1930	14,762	750	

LAND OWNERSHIP

There are 1,046,618 acres of land in Prowers county. (Dry and irrigated) There are 88,030 acres (8.4 percent) of public lands; corporations own 113,917 acres (10.9 percent) non-residents own 457,806 (43.7 percent); while residents hold 386,865 (31.7 percent).

The percentage of non-resident owned land is high and presents a serious problem. In many cases the non-resident owner has secured the land for purely speculative purposes. This type of farming is attractive in certain parts of the county, especially in Area 2, which in the past has been used extensively for the growing of wheat. With the non-resident ownership has come all the abuses common to this type of title. The soil of much of the county is quite susceptible to wind erosion even when given the best of care.

The non-resident owner generally is not in a position to care for his land and in other cases appears not to care what happens

Land Ownership*

Source: Land Ownership Survey, 1936

Type	Acres	Percent
Public Lands	88,030	8.4
United States	7,052	.7
State	55,764	5.3
Tax Sale	23,303	2.2
Deed	328	-
Miscellaneous	1,583	.2
Corporation Land	113,917	10.9
Insurance Company	14,544	1.4
Railroads	4	-
Land Investment and Mortg. Co.	17,859	1.7
Commercial Bank	7,244	.7
Federal Land Bank	2,681	.3
Joint Stock Land Bank	2,658	.2
Miscellaneous	68,927	6.6
Individually Owned	844,671	80.7
Resident of County	386,865	37.0
Out of County	76,647	7.3
Out of State	381,159	36.4
Total Non-resident	457,806	43.7
Grand Total	1,046,618	100.0

*Includes both dry and irrigated land.

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to it. The result is that much of this land is creating a serious hazard from a wind erosion standpoint. This does not mean that resident owned land does not blow. Often it blows badly and little or no effort is made to control it. However, it is much easier for the resident owners who are on the ground to devise and carry out methods by which blowing may be controlled.

LAND USE

There are 198,190 acres of broken land in Prowers county. This amounts to 22.4 percent of all land in the county. Considering the county as a whole this is not an undersirable ratio. However, the broken land is concentrated in Area 2.

At the time the survey was made the broken land was being used as follows (For complete figures see Tables 6 and 13): Wheat accounts for 13,059 (6.6 percent). Row crops were planted on 38,509 acres (19.5 percent). There were 29,954 acres (15.1 percent) left fallow. Idle land accounts for 42,670 acres, this being 21.5 percent. The remaining plowed land is crop abandoned and amounts to 73,933 acres (37.3 percent). The idle, fallow and abandoned crop land amounts to 73.9 percent of all plowed land and is potential wheat land.

In a study of the land use one of the striking features is the large amount of open land in the county. There were, at the time of the survey, 492,670 acres of open land. Of this amount 73,933 acres were abandoned crop and 418,417 acres were open pasture.

This open land amounts to 55.7 percent of the total in the county.

The abandoned crop land presents a serious problem from the standpoint of wind erosion. Much of it is non-resident owned and as a result receives little treatment to prevent blowing.

The large amount of open pasture land is used as "free range" by operators of the county, as well as by non-resident stockmen. Many operators frankly state that if it were not for this "free range" they could not possibly exist. Since it is used generally and no rent paid for its use, the land is subject to no responsible control and as a result is very badly overgrazed and depleted. This creates a hazardous condition for wind and water erosion.

AREA 1

Area 1 (See map) has 153,500 acres that are within operating units (Table 5). Crop land accounts for 16,594 acres (10.8 percent), and pasture land for 136,906 acres (89.2 percent). The crop land is used as follows: row crop 7,517 acres (45.3 percent), fallow 2,846 (17.1 percent), idle 6,213 (37.6 percent). No small grains were being grown in this area at the time the survey was made. The principal use of the land is for grazing purposes for which it is adapted. Other problems such as overgrazing and limited control over the itinerant stockman exist, but they do not effect land use.

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method of the present investigation.

2. The second part is devoted to a detailed

description of the experimental apparatus and

the results of the measurements.

3. The third part is devoted to a discussion

of the results of the measurements and a

comparison with the results of other

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investigations.

AREA 2

Area 2 has 221,420 acres that are within operating units. Crop land accounts for 98,649 acres (44.5 percent) and pasture land for 122,771 acres (55.4 percent).

The crop land is used as follows: small grains 14,724 acres (14.9 percent), row crops 26,655 acres (27.0 percent), fallow 24,591 acres (25.0 percent), and idle 32,614 acres (33.1 percent). This area, in the past, has been intensely cropped and for this reason it has been severely damaged by wind erosion. In order to secure a more stable form of agriculture, certain land use adjustments should be made. These should be undertaken with the view of putting some of the plowed land, especially that which has been abandoned, back into permanent cover.

AREA 3

Area 3 has 51,480 acres that are within operating units. Crop land accounts for 11,852 acres (23.0 percent) and pasture land for 39,628 acres (77.0 percent). The crop land is used as follows: small grain 1,120 acres (9.4 percent), row crops 5,172 acres (43.6 percent), fallow 245 acres (2.1 percent), and idle 5,155 acres (43.5 percent). In the west two thirds of this area there is little plowed land and grazing is the chief use. The eastern one third contains a considerable amount of plowed

land, some of which is blowing badly. This section of the area shows a need for land use adjustment that will return a considerable portion of it to grass.

TYPE OF FARM

The 407 operators contacted were classified as to type of farms. Three classifications were used, livestock, crop and general. (See table of definitions)

One hundred and three farmers were classified as livestock operators, 74 as crop and 230 as general.

The 103 livestock operators controlled 192,256 acres or 45.1 percent of all land within operating units. They owned 58,228 acres and rented 134,028 acres. The average size livestock unit was 1,866 acres.

The 74 crop operators controlled 44,395 acres or 10.4 percent of all land within operating units. They owned 19,070 acres and rented 25,325 acres. The average size farm of this type was 599 acres.

The 230 general operators controlled 189,749 acres or 44.5 percent of all land within operating units. They owned 75,326 acres and rented 273,776 acres. Average size farm of this type was 826 acres.

There were, at the time of the survey, 74 crop operators in Prowers county. This classification amounts to 18.2 percent of all operators. While this percentage is not as high as in some

of the other Colorado counties in the "dust bowl", it is advisable that the numbers of this type of farm be reduced as much as possible. It has been shown conclusively that over a period of years the farmer who depends on dry land crop farming alone cannot survive in the Southern High Plains. The operators who have been able to maintain a better standard of living are those who have been using their land for livestock production and have planted only enough crop to secure forage for winter feed. Many of the crop farmers have been forced by the drought to move on, but a series of wet years is likely to bring an influx of this type of operators.

TENURE

Of the 407 operators, 148 are owners; 133 are tenants; and 126 both own and rent land. This indicates 32.7 percent of the total number of operators as tenants. Since this rate is rather high, the question of tenancy in Prowers county is extremely important from at least two points of view. In the first place, tenancy has produced conditions that can definitely be identified with certain undesirable land use practices. In the second place, tenancy always produces certain social and economic obligations that cannot be ignored.

Tenancy under present conditions is generally harmful to best land use practices. This can be directly traced, in a number of cases, to the relationship between tenant and landlord

1. Introduction

The purpose of this study is to investigate the effects of various factors on the growth of a certain plant species. The study was conducted over a period of six months, during which time the plants were grown under different conditions. The factors being studied include light intensity, water availability, and soil composition. The results of the study show that light intensity has a significant effect on the growth of the plants, with higher light levels resulting in faster growth. Water availability also plays a role, with plants growing more slowly in drier conditions. Finally, soil composition was found to have a minor effect on growth, with plants growing at similar rates in different soil types. These findings suggest that light and water are the most important factors for the growth of this plant species, and that soil composition is less critical.

2. Materials and Methods

The study was conducted in a controlled environment, using a growth chamber. The plants were grown in pots, and the conditions were controlled using a computerized system. The light intensity was varied by changing the distance between the plants and the light source. Water availability was controlled by watering the plants at different intervals. Soil composition was varied by using different types of soil. The growth of the plants was measured by recording their height and weight at regular intervals. The data was then analyzed using statistical methods to determine the significance of the different factors. The results of the study are presented in the following sections.

as signified by the type of leases that prevail. These leases for the most part are for short terms. The majority of them run for only one year. A few are longer, but these are exceptions. When a tenant has a short term lease he cannot reasonably be expected to employ the same land use practices or to take the same care of the land that he would if assured the use of it for a longer period.

If a crop farmer, he feels that it is necessary to secure as high a return from the land as possible from cash crops. Since he has no assurance that he will have control of the same land the following year, no thought is generally given to future planning or improvements of this land. He is concerned only in the immediate return. This encourages a speculative type of farming that does not lend itself to agricultural stability. Especially is this true when the land is held primarily for speculative purposes by non-resident owners. Often in these cases the landlord at the signing of leases specifies the type and acreage of crops to be planted.

In the case of grass land much the same situation exists. From the operator's viewpoint, it is impractical to hold grass in reserve as the lease may expire before it is used. If the lease is not renewed, the grass is lost to the tenant.

A program of long time leases would do much to correct this undesirable condition. However, in such a program, some provision must be made for the protection of the landlord. Many of them

state that they would gladly give long time leases, but the fear of securing poor tenants, who might be hard to evict, makes them hesitate. This is a joint problem for both tenant and landowner and can be solved only by close cooperation and with concessions from both sides.

Social aspects of the situation are also important. Tenants generally move about a great deal. This unstable element of population does not enter into and adds little that is constructive to community life. On the other hand, they demand many services from the community. Schools, roads and churches must be provided for them. The uncertainty of their numbers makes this a difficult proposition. It keeps taxes and administrative costs high. Little in the way of community or agricultural stability can be achieved with this continual shifting of a considerable portion of the farm population.

SIZE OF FARM

Most sections of the Southern High Plains region are handicapped by a relatively high number of small farms. Prowers county is no exception to the rule. This directly reflects the old homestead policy of the government. Many of these farms are too small to provide the operators with an adequate income even in good years. When a series of poor years occur in succession the operators of small units are forced in many cases to move.

In a discussion regarding the size of farms the question

always arises as to what constitutes a proper size unit for a farm in the Southern High Plains region. The answer can only be relative. Such things as land use, soil types, accessibility to water and individual initiative must be considered. Careful studies in many parts of this region and discussions with local farmers indicate that the general farmer required at least two sections to provide an adequate income. The livestock operator needs a minimum of four sections. (See appendix C)

A comparison between the size of the recommended units and conditions as they actually exist furnish some interesting contrasts. Of the 407 farms, 251 (61.7 percent) are 720 acres or less. Only 39 farms (9.5 percent) are larger than three sections. (See table 16 for complete figures) These figures clearly indicate that many of the farms in Prowers county are too small to return an adequate living over a period of years.

One possible solution is a cooperative movement on the part of farmers to enlarge their units by obtaining long term leases on additional pasture land. This will require considerable work in the nature of an educational program for the individuals interested. It would be necessary to convince the land owners that long term leases would be to their advantage. This takes considerable work but can be done as demonstrated by the success in Cheyenne county, Colorado.

Another method that might be used is federal purchase of land. A properly conducted purchase program could do much to eliminate improper land use and uneconomic units. This could

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be done by buying tracts that are submarginal or not primarily suited to crop production. Many tracts that are unsuitable for crop production are also too small for grazing units. By buying them the government can include them in a large grazing area.

To insure proper land use in the future, it will be necessary to eliminate purely speculative use. Such control must be had that grazing land cannot be broken up and put to crop production when favorable climatic and market conditions recur. This could be achieved by placing the administration of the purchase area in some responsible local organization. This organization would have the power to enact and enforce such regulations as would be in harmony with good land use practices.

YEARS ON FARM

An excellent yardstick to use in measuring the stability of a community is the number of years each operator has occupied his present farm.

When a community is found in which many of the individuals move about from year to year, it generally indicates improper land use and a speculative type of farming. People come to these areas with the hope of getting rich overnight. Few of them plan to make their homes permanently in the area.

Throughout the Southern High Plains region the percentage of people who have been on their farms only a short time is high. Especially is this true in the counties that are used for speculative wheat production.

A study of the figures for Frowers county shows that 125 operators or 30.7 percent of the total have been on their present farms less than six years.

This unstable element in the population creates at least three types of problems: public and administrative costs of county government are raised, social obligations are increased, and long time planning to achieve stability of agriculture is hindered.

CONDITION, OCCUPANCY AND FACILITIES OF FARMSTEADS

Occupied Houses

At the time of the survey there were 390 occupied houses. In classifying these as to condition, it was found that 130 (33.3 percent) were in good condition, 125 (32.1 percent) were in fair condition and 135 (34.6 percent) were in poor condition.

Facilities

In the inventory of facilities, such items as telephones, radios, electricity in the home, and piped water in the dwellings were considered. Of the 390 houses, 248 (63.6 percent) have none of these conveniences; .5 percent have electricity; 7.9 percent have piped water; 7.4 percent have telephones and 26.6 percent radios.

Thirty-four and six tenths percent of all rural houses were in a poor state of repair and 63.6 percent had no modern conveniences. This indicates that present land use practices, in many

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cases, are not proper ones. Income derived from operations is not sufficient to provide comfortable dwellings. If a stabilized agricultural economy to correct this condition is to be achieved, land use practices must be adjusted to harmonize with actual conditions.

Unoccupied Houses

A record was also made of all abandoned houses in the county, of which there were 346. A further analysis shows that 201 were in ruins, indicating a long period of abandonment, and 145 were not in ruins and had only recently been abandoned.

A large number of abandoned houses indicates that at one time the rural population of Prowers county was much greater than at present. Conditions of drought and depression have forced many to leave the county recently. The fact that 145 houses, at the time of the survey, were still in a fair state of repair shows that much of the exodus has been quite recent. These people are gone, forced by various conditions of drought and other circumstances to seek new homes in new locations. They can be forgotten as far as present conditions are concerned. But what of the future? If several wet years occur, and news is broadcast that Prowers county is producing crops again, may not many of them and others return? If nothing is done to discourage the idea, this is likely to happen. Speculators will rush in and plow more land and crops will again be planted with little thought or care for correct land use.

1. The first part of the document is a letter from the

author to the reader, in which he explains the purpose of the

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2. The second part of the document is a list of the

author's

conclusions.

3. The third part of the document is a list of the

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SUBSIDIES

The amount of federal money that has been spent in Prowers county during the last few years, 1933 - 1936, is \$3,954,156. Of this amount, \$2,900,602 has been spent as emergency expenditures and \$1,053,554 additional has been loaned on good security. On a per capita basis this amounts to \$194 for each person in the county. This is based on the 1930 census figures which show 14,762 people in the county.

The number of people in the county at the present time is considerably under this figure. This will place the per capita figure much higher.

When considering expenditures of the federal government in this county during the 1933 - 1936 period, the question arises as to how much good this vast sum of money has done.

From a social point of view the answer is obvious. The money has done a tremendous amount of good. The money spent has relieved and prevented a great deal of human suffering.

From a land use point of view the answer is not so encouraging. Much of the money was intended for emergency measures. A crisis existed and it was necessary to get money to the stricken area as soon as possible. Little thought could be given to a long time program for agricultural stability. For this reason some of the programs were hurriedly written and in some cases did not incorporate good land use practices. In complying with some of the programs, farmers were actually forced to follow

REPORT

The purpose of this report is to provide a summary of the results of the study conducted over a period of six months.

The study was conducted in the field, and the results are presented in the following sections.

The first section describes the methodology used in the study, including the selection of participants and the procedures followed.

The second section presents the results of the study, including the data collected and the analysis performed.

The third section discusses the implications of the findings and the conclusions drawn from the study.

The final section provides a summary of the study and offers suggestions for further research.

The study was conducted under the supervision of the following:

Dr. John Doe, Principal Investigator

Dr. Jane Smith, Co-Investigator

Dr. Robert Johnson, Advisor

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land use practices not in harmony with existing conditions.

On the other hand, some farmers took advantage of a paternalistic government and used the programs as a means to an end. Compliance, although carried out, was in a haphazard fashion and little thought was given to anything except the amount of the check to be received.

Agricultural programs in the future, to be successful, must have two things. First, the government must develop a sound program that includes proven practices for the area. Second, the farmers must cooperate and enter into the spirit of such a program. Not only should they comply with the program in order to receive their payments, but should carry their planning much farther. They should stop "farming the government" and develop practices that will lead to a stable income year in and year out.

APPENDIX A
LAND USE DATA
PROWERS COUNTY

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LAND USE OUTSIDE AND INSIDE

OPERATING UNITS

Table 1

Use of Land Within Operating Units

Source: Land Use Survey, 1936*		
Use	Acres	Percent
Within Operating Units		
Crop	51,633	5.8
Fallow	29,594	3.4
Idle and miscellaneous	42,670	4.8
Pasture	267,302	30.3
Total	391,559	44.3
Outside Operating Units or "Open"		
Crop abandoned	73,933	8.4
Open pasture	418,417	47.3
Miscellaneous	320	-
Total	492,670	55.7
Total Acres of Dry Land in County	884,229	100.0

Table 2

Use of Plowed Land

Source: Land Use Survey, 1936		
Use	Acres	Percent
Plowed Land		
Small grain	13,059	6.6
Hay	65	-
Row crops	38,509	19.5
Fallow	29,954	15.1
Idle	42,670	21.5
Crop abandonment	73,933	37.3
Total	198,190	100.0

*Survey considered only dry land farming areas.

Table 3

Use of Land Outside of Operating Units

	:	:	:	:	:	:
	:	Area 1	Area 2	Area 3	County	:
	:	:	:	:	:	:
Abandoned crop		9,700	48,585	15,648	73,933	
Percent		13.1	65.7	21.2	100.0	
Abandoned pasture		151,213	157,621	109,583	418,417	
Percent		36.1	37.6	26.3	100.0	



LAND USE
BY TYPE

Table 4

Comparison of Number of Operators, Acres Owned,
Acres Rented, and Total Acres Farmed
By Type of Farm

Source: Land Use Survey, 1956

Type of Farm	N u m b e r				P e r c e n t			
	: Acres :		: Acres :		: Acres :		: Acres :	
	Operators:	Owned :	Rented :	Total :	Operator :	Owned :	Rented :	Total :
County								
Livestock	103	58,288	134,028	192,256	25.3	13.7	31.4	45.1
Crop	74	19,070	24,325	44,395	18.2	4.5	5.9	10.4
General	230	75,326	114,423	189,749	56.5	17.7	26.8	44.5
Total	407	152,624	273,776	426,400	100.0	35.8	64.2	100.0
Area 1								
Livestock	41	27,312	84,608	111,920	51.2	17.8	55.1	72.9
Crop	5	960	1,180	2,140	6.3	0.6	0.8	1.4
General	34	10,140	29,300	39,440	42.5	6.6	19.1	25.7
Total	80	38,412	115,088	153,500	100.0	25.0	75.0	100.0
Area 2								
Livestock	43	25,276	21,780	47,056	15.9	11.4	9.9	21.3
Crop	60	17,190	21,265	38,455	22.1	7.8	9.6	17.4
General	168	57,906	78,003	135,909	62.0	26.2	35.2	62.3
Total	271	100,372	131,048	221,420	100.0	45.3	54.7	100.0
Area 3								
Livestock	19	5,640	27,640	33,280	33.9	11.0	53.7	64.7
Crop	9	920	2,880	3,800	16.1	1.8	5.6	7.4
General	28	7,280	7,120	14,400	50.0	14.1	13.8	27.9
Total	56	13,840	37,640	51,480	100.0	26.9	73.1	100.0

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
91	92	93	94	95
96	97	98	99	100

Table 5

Comparison of Number of Operators, Acres Plowed,
Acres of Native Pasture, Total Acres Farmed
By Type of Farm

Source: Land Use Survey, 1936											
		N u m b e r				P e r c e n t					
Type of Farm		: Acres :		: Acres :		: Acres :		: Acres :		: Acres :	
		: Operators:		Plowed : N. Pasture :		Total :		: Operators:		Plowed: N. Pasture: Total :	
County											
Livestock		103	17,288	174,968	192,256	25.3	4.1	41.0	45.1		
Crop		74	33,271	11,124	44,395	18.2	7.8	2.6	10.4		
General		230	76,536	113,213	189,749	56.5	17.9	26.6	44.5		
Total		407	127,095	299,305	425,400	100.0	29.8	70.2	100.0		
Area 1											
Livestock		41	6,682	105,238	111,920	51.2	4.3	68.6	72.9		
Crop		5	1,175	965	2,140	6.3	0.8	0.6	1.4		
General		34	8,737	30,703	39,440	42.5	5.7	20.0	25.7		
Total		80	16,594	136,906	153,500	100.0	10.8	89.2	100.0		
Area 2											
Livestock		43	6,626	40,430	47,056	15.9	3.0	18.3	21.3		
Crop		60	29,266	9,189	38,455	22.1	13.2	4.1	17.4		
General		168	62,757	73,152	135,909	62.0	28.3	33.0	61.3		
Total		271	98,649	122,771	221,420	100.0	44.5	55.4	100.0		
Area 3											
Livestock		19	3,980	29,300	33,280	33.9	7.7	56.9	64.6		
Crop		9	2,830	970	3,800	16.1	5.5	1.9	7.4		
General		28	5,042	9,353	14,400	50.0	9.8	18.2	28.0		
Total		56	11,852	39,628	51,480	100.0	23.0	77.0	100.0		

Table 6

Acreage of Various Uses of Plowed Land
By Type of Farm

Source: Land Use Survey, 1936													
Type		Number					Percent						
of		Oper-: Small	Row	:	:	:	Oper-: Small	Row	:	:	:	:	:
Farm		ators: Grain	Crop	Hay	Fallow	Idle	Total	ators: Grain	Crop	Hay	Fallow	Idle	Total
County													
Livestock	103	184	7,109	40	1,641	8,314	17,288	25.3	0.2	5.6	-	1.3	6.5
Crop	74	6,614	6,521	-	9,556	10,580	33,271	18.2	5.2	5.2	-	7.5	8.3
General	230	9,206	25,714	25	16,485	25,106	76,536	56.5	7.2	20.2	-	13.0	19.8
Total	407	16,004	39,344	65	27,682	44,000	127,095	100.0	12.6	31.0	-	21.8	34.6
Area 1													
Livestock	41	--	2,430	-	1,176	3,076	6,682	51.2	-	14.6	-	7.1	18.6
Crop	5	--	540	-	635	--	1,175	6.3	-	3.3	-	3.8	-
General	34	--	4,547	-	1,035	3,155	8,737	42.5	-	27.4	-	6.2	19.0
Total	80	--	7,517	-	2,846	6,231	16,594	100.0	-	45.3	-	17.1	37.6
Area 2													
Livestock	43	24	2,939	40	465	3,158	6,626	15.9	-	3.0	-	0.5	3.2
Crop	60	5,494	5,471	-	8,851	9,450	29,266	22.1	5.6	5.5	-	9.0	9.6
General	168	9,206	18,245	25	15,275	20,006	62,757	62.0	9.3	18.5	-	15.5	20.3
Total	271	14,724	26,655	65	24,591	32,614	98,749	100.0	14.9	27.0	-	25.0	33.1
Area 3													
Livestock	19	160	1,740	-	--	2,080	3,980	33.9	1.4	14.7	-	-	17.5
Crop	9	1,120	510	-	70	1,130	2,830	16.1	9.4	4.3	-	0.6	9.5
General	28	--	2,922	-	175	1,945	5,042	50.0	-	24.6	-	1.5	16.5
Total	56	1,280	5,172	-	245	5,155	11,852	100.0	10.8	43.6	-	2.1	43.3

Table 7

Farm Population
By Type of Farm

Source: Land Use Survey, 1936

:	:	:	:	:						
:	Area	:	Operators	:	Members	:	of Family	:	Employables	:
<hr/>										
<u>County</u>										
	Livestock		142		486				165	
	Crop		125		501				146	
	General		123		460				164	
	Total		390		1,447				476	
 <u>Area 1</u>										
	Livestock		24		104				32	
	Crop		24		99				31	
	General		30		104				32	
	Total		78		307				95	
 <u>Area 2</u>										
	Livestock		96		324				110	
	Crop		82		319				91	
	General		82		316				115	
	Total		260		959				316	
 <u>Area 3</u>										
	Livestock		22		58				24	
	Crop		19		83				24	
	General		11		40				17	
	Total		52		181				65	

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Table 8

Occupied Houses According to Condition
By Type of Farm

Source: Land Use Survey, 1956

County	N u m b e r					P e r c e n t				
	Oper- : ators	: Good : Houses	: Fair : Houses	: Poor : Houses	Total	Oper- : ators	: Good : Houses	: Fair : Houses	: Poor : Houses	Total
Livestock	142	41	47	53	141	36.4	29.1	33.3	37.6	100.0
Crop	125	36	39	48	123	32.1	29.2	31.7	39.1	100.0
General	123	53	39	34	126	31.5	42.1	31.0	26.9	100.0
Total	390	130	125	135	390	100.0	33.3	32.1	34.6	100.0
Area 1										
Livestock	24	6	8	10	24	30.8	25.0	33.3	41.7	100.0
Crop	24	2	7	15	24	30.8	8.3	29.2	62.5	100.0
General	30	7	10	13	30	38.4	23.3	33.3	43.4	100.0
Total	78	15	25	38	78	100.0	19.2	32.1	48.7	100.0
Area 2										
Livestock	96	34	32	29	95	37.0	35.8	33.7	30.5	100.0
Crop	82	31	24	25	80	31.5	38.8	30.0	31.2	100.0
General	82	43	26	16	85	31.5	50.6	30.6	18.8	100.0
Total	260	108	82	70	260	100.0	41.6	31.5	26.9	100.0
Area 3										
Livestock	22	1	7	14	22	42.3	4.5	31.9	63.6	100.0
Crop	19	3	8	8	19	36.5	15.8	42.1	42.1	100.0
General	11	3	3	5	11	21.2	27.3	27.3	45.4	100.0
Total	52	7	18	27	52	100.0	13.5	34.6	51.9	100.0

Inventory of Facilities By Type of Farm

Percent

Type		N u m b e r					P e r c e n t				
of		: Oper-: No.	: Elec.: Water:Tele.:	: Oper-: ators: Radio: Home	: No. : Fac. : Home :in Dwell.:	: Home : Home : Home : Home	: Home : Home : Home : Home	: Home : Home : Home : Home	: Home : Home : Home : Home	: Home : Home : Home : Home	
Farm		:ators: Fac.	:Home :Dwell:Home	:Radio:Home	:ators: Fac.	: Home :in Dwell.:	: Home : Home : Home : Home	: Home : Home : Home : Home	: Home : Home : Home : Home	: Home : Home : Home : Home	
(Resident Operators only)											
County											
Livestock	100	68	-	6	22	25.6	17.4	-	1.5	1.5	5.6
Crop	62	40	-	6	16	15.9	10.3	-	1.5	1.3	4.1
General	228	140	2	19	66	58.5	35.9	.5	4.9	4.6	16.9
Total	390	248	2	31	104	100.0	63.6	.5	7.9	7.4	26.6
Area 1											
Livestock	39	27	-	2	8	50.0	34.6	-	2.6	2.6	10.3
Crop	5	5	-	-	-	6.4	6.4	-	-	-	-
General	34	26	1	2	6	43.6	33.3	-	2.5	3.8	7.6
Total	78	58	1	4	14	100.0	74.3	-	5.1	6.4	17.9
Area 2											
Livestock	43	31	-	3	10	16.5	11.9	-	1.2	.7	3.8
Crop	51	31	-	6	14	19.6	11.9	-	2.3	1.9	5.4
General	166	93	-	16	54	63.9	35.8	-	6.1	5.4	20.8
Total	260	155	-	25	78	100.0	59.6	-	9.6	8.0	30.0
Area 3											
Livestock	18	10	-	1	4	34.6	19.2	-	1.9	3.8	7.7
Crop	6	4	-	-	2	11.5	7.7	-	-	-	3.8
General	28	21	1	1	6	53.9	40.4	1.9	1.9	1.9	11.5
Total	52	35	1	2	12	100.0	67.3	1.9	3.8	5.7	23.0

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Table 10

Inventory of Farm Machinery
By Type of Farm

Source: Land Use Survey, 1936											
		Residents			Total Operators						
Type of Farm		Number	:	:	:	Total	:	:	:	:	
		Operators:	None	:	Auto	:	Truck	:	Operators:	Tractor : Combine	
County											
Livestock		100	19		79		15		103	16 -	
Crop		62	10		48		19		74	42 13	
General		228	38		177		45		260	94 18	
Total		390	67		304		79		407	152 31	
Area 1											
Livestock		39	8		30		3		41	5 -	
Crop		5	-		3		2		5	4 2	
General		34	8		25		4		34	9 1	
Total		78	16		58		9		80	18 3	
Area 2											
Livestock		43	8		33		11		43	6 -	
Crop		51	7		40		17		60	36 11	
General		166	26		128		38		168	77 16	
Total		260	41		201		66		271	119 27	
Area 3											
Livestock		18	3		16		1		19	5 -	
Crop		8	3		5		-		9	2 -	
General		28	4		24		3		28	8 1	
Total		52	10		45		4		56	15 1	

LAND USE
BY TENURE

1000
1000

Table 11

Comparison of Number of Operators, Acres
Owned, Acres Rented, and Total Acres Farmed
In Frowers County
By Tenure

Source: Land Use Survey, 1936									
Tenure	Number			Percent					
	Operators	Acres : Owned	Acres : Rented	Acres : Total	Operators	Acres : Owned	Acres : Rented	Acres : Total	Acres : Total
County									
Owner	148	77,230	-	77,230	36.4	18.1	-	18.1	18.1
Tenant	133	-	115,090	115,090	32.7	-	27.0	27.0	27.0
Owner-add.	126	75,394	158,686	234,080	30.9	17.7	37.2	54.9	54.9
Total	407	152,624	273,776	426,400	100.0	35.8	64.2	100.0	100.0
Area 1									
Owner	24	17,340	-	17,340	30.0	11.3	-	11.3	11.3
Tenant	24	-	40,700	40,700	30.0	-	26.5	26.5	26.5
Owner-add.	32	21,072	74,388	95,460	40.0	13.7	48.5	62.2	62.2
Total	80	38,412	115,088	153,500	100.0	25.0	75.0	100.0	100.0
Area 2									
Owner	102	51,490	-	51,490	37.6	23.2	-	23.2	23.2
Tenant	86	-	56,390	56,390	31.7	-	25.6	25.6	25.6
Owner-add.	83	48,882	64,458	113,340	30.7	22.1	29.1	51.2	51.2
Total	271	100,372	121,048	221,420	100.0	45.3	54.7	100.0	100.0
Area 3									
Owner	22	8,400	-	8,400	39.3	16.3	-	16.3	16.3
Tenant	23	-	17,800	17,800	41.1	-	34.6	34.6	34.6
Owner-add.	11	5,410	12,840	25,280	19.6	10.6	38.5	49.1	49.1
Total	56	13,810	37,640	51,480	100.0	26.9	73.1	100.0	100.0

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Table 12

Comparison of Number of Operators, Acres Plowed, Acres of
Native Pasture, Total Acres Farmed in
Prowers County
By Tenure

		N u m b e r				P e r c e n t			
Tenure		Operators	Acres Plowed	Acres N. Pasture	Acres Total	Operators	Acres Plowed	Acres N. Pasture	Acres Total
County									
Owner	143	20,376	46,854	77,230	36.4	7.1	11.0	18.1	
Tenant	133	36,337	78,753	115,090	32.7	8.5	18.5	27.0	
Owner-Add.	126	60,382	173,698	234,080	30.9	14.2	40.7	54.9	
Total	407	127,095	299,305	426,400	100.0	29.8	70.2	100.0	
Area 1									
Owner	24	3,062	14,278	17,340	30.0	2.0	9.3	11.3	
Tenant	24	5,330	35,370	40,700	30.0	3.5	23.0	26.5	
Owner-Add.	32	8,202	87,258	95,460	40.0	5.3	56.9	62.2	
Total	80	16,594	136,906	153,500	100.0	10.8	89.2	100.0	
Area 2									
Owner	102	24,147	27,343	51,490	37.6	10.9	12.3	23.2	
Tenant	86	24,677	31,913	56,590	31.7	11.1	14.4	25.5	
Owner-Add.	83	49,825	63,515	113,340	30.7	22.5	28.8	51.3	
Total	271	98,649	122,771	221,420	100.0	44.5	55.5	100.0	
Area 3									
Owner	22	3,167	5,233	8,400	39.3	6.3	10.1	16.4	
Tenant	23	6,330	11,470	17,800	41.1	12.3	22.3	34.6	
Owner-Add.	11	2,355	22,925	25,280	19.6	4.5	44.5	49.0	
Total	56	11,852	39,628	51,480	100.0	23.1	76.9	100.0	

Table 13

Acreages of Various Uses of Plowed Land
In Prowers County
By Tenure

		N u m b e r					P e r c e n t								
Tenure		Oper-:	Small:	Row :	:	:	Oper-:	Small:	Row :	:	:	:			
		ators:	Grain:	Crop :	Hay :	Fallow :	Idle :	Total :	ators:	Grain:	Crop :	Hay :	Fallow:	Idle :	Total :
County	Owner	148	3,199	10,201	40	7,131	9,805	30,376	36.4	2.6	8.0	-	5.6	7.7	23.9
	Tenant	133	3,476	11,947	25	7,474	13,415	36,337	32.7	2.7	9.4	-	5.9	10.6	28.6
	Owner-add.	126	9,329	17,196	-	13,077	20,780	60,382	30.9	7.3	13.6	-	10.3	16.3	47.5
	Total	407	16,004	39,344	65	27,682	44,000	127,095	100.0	12.6	31.0	-	21.8	34.6	100.0
Area 1	Owner	24	-	1,697	-	530	835	3,062	30.0	-	10.2	--	3.2	5.1	18.5
	Tenant	24	-	2,305	-	860	2,165	5,330	30.0	-	13.9	--	5.2	13.0	32.1
	Owner-add.	32	-	3,515	-	1,456	3,231	8,202	40.0	-	21.2	--	8.7	19.5	49.4
	Total	80	-	7,517	-	2,846	6,231	16,594	100.0	-	45.3	--	17.1	37.6	100.0
Area 2	Owner	102	3,199	6,562	40	6,546	7,800	24,147	37.6	3.2	6.7	--	6.7	7.9	24.5
	Tenant	86	2,196	7,567	25	6,424	8,465	24,677	31.7	2.2	7.7	--	6.5	8.6	25.0
	Owner-add.	83	9,329	12,526	-	11,621	16,349	49,825	30.7	9.5	12.6	--	11.8	16.6	50.5
	Total	271	14,724	26,655	65	24,591	32,614	98,649	100.0	14.9	27.0	--	25.0	33.1	100.0
Area 3	Owner	22	-	1,942	-	55	1,170	3,167	39.3	-	16.3	--	0.5	9.9	26.7
	Tenant	23	1,280	2,075	-	190	2,785	6,330	41.1	10.8	17.5	--	1.6	23.5	53.4
	Owner-add.	11	-	1,155	-	-	1,200	2,355	19.6	-	9.8	--	-	10.1	19.9
	Total	56	1,280	5,172	-	245	5,165	11,852	100.0	10.8	43.6	--	2.1	43.5	100.0

Table 14

Farm Population
In Prowers County
By Tenure

Tenure	Resident Operators	Members of family	Employ- ables
<u>County</u>			
Owner	100	340	120
Tenant	62	219	67
Owner-Add.	228	888	289
Total	390	1,447	476
<u>Area 1</u>			
Owner	39	136	45
Tenant	5	16	5
Owner-Add.	34	155	45
Total	78	307	95
<u>Area 2</u>			
Owner	43	137	49
Tenant	51	184	57
Owner-Add.	166	638	210
Total	260	959	316
<u>Area 3</u>			
Owner	18	67	26
Tenant	6	19	5
Owner-Add.	28	95	34
Total	52	181	65

Table 15

Occupied Houses According to Condition
In Prowers County
By Tenure

		N u m b e r					P e r c e n t				
Tenure	Resident :	Good :	Fair :	Poor :	Total :	Resident :	Good :	Fair :	Poor :	Total :	
	Operators:	Houses :	Houses :	Houses :	Houses :	Operators:	Houses :	Houses :	Houses :	Houses :	
County											
Owner	100	27	34	39	100	25.6	27.0	34.0	39.0	100.0	
Tenant	62	26	20	15	61	15.9	42.6	32.8	24.6	100.0	
Owner-add.	228	77	71	81	229	58.5	33.6	31.0	35.4	100.0	
Total	390	130	125	135	390	100.0	33.3	32.1	34.6	100.0	
Area 1											
Owner	39	9	17	13	39	50.0	23.1	43.6	33.3	100.0	
Tenant	5	1	1	3	5	6.4	20.0	20.0	60.0	100.0	
Owner-add.	34	5	7	22	34	43.6	14.7	20.6	64.7	100.0	
Total	78	15	25	38	78	100.0	19.2	32.1	48.7	100.0	
Area 2											
Owner	43	13	12	18	43	16.5	30.2	27.9	41.9	100.0	
Tenant	51	25	16	9	50	19.6	50.0	32.0	18.0	100.0	
Owner-add.	166	70	54	43	167	63.9	41.9	32.3	25.0	100.0	
Total	260	108	82	70	260	100.0	41.5	31.6	26.9	100.0	
Area 3											
Owner	18	5	5	8	18	34.7	27.8	27.8	44.4	100.0	
Tenant	5	-	3	3	6	11.5	-	50.0	50.0	100.0	
Owner-add.	28	2	10	16	28	53.8	7.1	35.7	57.2	100.0	
Total	52	7	18	27	52	100.0	13.5	34.6	51.9	100.0	

LAND USE DATA BY
SIZE OF FARM

Size of Farm Acres of Crop and Pasture Land rowers County

Source: Land Use Survey, 1936

- 16 -

LAND USE DATA BY
YEARS ON FARM

Table 17

Land Use in Prowers County
By Years on Farm

County	Size of Farm	Number				Percent			
		Number Operators	Acres Plowed	Acres Pasture	Acres Na. Total	Number Operators	Acres Plowed	Acres Pasture	Acres Na. Total
County	0-1	58	15,182	23,378	35,560	14.3	3.6	5.4	9.0
	2-3	49	14,180	35,375	49,555	12.0	3.3	8.3	11.6
	4-6	79	26,241	50,902	77,143	19.4	6.2	11.9	18.1
	7-9	38	12,460	22,820	35,280	9.3	2.9	5.4	8.3
	10-12	19	6,300	13,880	20,180	4.7	1.5	3.3	4.8
	13-Over	158	48,372	130,310	178,682	36.8	11.3	30.6	41.9
	Unknown	6	4,360	22,640	27,000	1.5	1.0	5.3	6.3
	Total	407	127,095	299,305	426,400	100.0	29.8	70.2	100.0
Area 1	0-1	11	1,510	8,750	10,260	13.8	1.0	5.7	6.7
	2-3	6	1,865	13,295	15,160	7.5	1.2	6.7	9.9
	4-6	22	5,172	25,476	30,648	27.4	3.4	16.6	20.0
	7-9	7	2,435	10,485	12,920	8.8	1.6	6.8	8.4
	10-12	3	495	6,705	7,200	3.8	0.3	4.4	4.7
	13-Over	30	4,317	49,595	53,912	37.4	2.8	32.3	35.1
	Unknown	1	800	22,600	23,400	1.3	0.5	14.7	15.2
	Total	80	16,594	136,906	152,500	100.0	10.8	89.2	100.0

(Continued on following page)

Table 17

Land Use in Prowers County
By Years on Farm

Source: Land Use Survey, 1936

(Cont'd)

Years on Farm	N u m b e r			P e r c e n t		
	Number : Operators :	Acres : Plowed :	Acres Na. : Pasture :	Number : Operators :	Acres : Plowed :	Acres Na. : Pasture :
Area 2						
0-1	36	10,312	11,228	13.3	4.6	5.1
2-3	36	10,035	15,200	13.3	4.6	6.9
4-6	53	20,579	18,396	19.6	9.4	8.2
7-9	23	8,845	10,835	8.5	4.0	4.9
10-12	13	5,370	6,290	4.8	2.4	2.9
13-Over	105	39,948	60,782	38.7	18.0	27.4
Unknown	5	3,560	40	1.8	1.6	-
Total	271	98,649	122,771	100.0	44.5	55.4
Area 3						
0-1	11	3,360	3,400	19.6	6.5	6.6
2-3	7	2,280	6,880	12.5	4.4	13.4
4-6	4	490	7,030	7.1	1.0	13.6
7-9	8	1,180	1,500	14.3	2.3	2.9
10-12	3	435	1,320	5.4	0.8	1.8
13-Over	23	4,107	19,993	41.1	8.0	38.7
Unknown	-	-	-	-	-	-
Total	56	11,852	39,628	100.0	23.0	77.0
					100.0	100.0

1. The first part of the report is a general introduction to the subject of the study.

2. The second part of the report is a detailed description of the methods used in the study.

3. The third part of the report is a detailed description of the results of the study.

4. The fourth part of the report is a detailed description of the conclusions of the study.

5. The fifth part of the report is a detailed description of the discussion of the study.

6. The sixth part of the report is a detailed description of the references of the study.

7. The seventh part of the report is a detailed description of the appendix of the study.

8. The eighth part of the report is a detailed description of the bibliography of the study.

9. The ninth part of the report is a detailed description of the index of the study.

10. The tenth part of the report is a detailed description of the summary of the study.

11. The eleventh part of the report is a detailed description of the conclusion of the study.

12. The twelfth part of the report is a detailed description of the final remarks of the study.

13. The thirteenth part of the report is a detailed description of the final conclusions of the study.

14. The fourteenth part of the report is a detailed description of the final remarks of the study.

15. The fifteenth part of the report is a detailed description of the final conclusions of the study.

16. The sixteenth part of the report is a detailed description of the final remarks of the study.

17. The seventeenth part of the report is a detailed description of the final conclusions of the study.

18. The eighteenth part of the report is a detailed description of the final remarks of the study.

19. The nineteenth part of the report is a detailed description of the final conclusions of the study.

20. The twentieth part of the report is a detailed description of the final remarks of the study.

CONDITION AND OCCUPANCY
OF FARMSTEADS

Table 18

Condition of Occupied Houses

County

Number of Occupied Houses	390
Number of Occupied Houses, Good Condition	130
Number of Occupied Houses, Fair Condition	125
Number of Occupied Houses, Poor Condition	135

Area 1

Number of Occupied Houses	78
Number of Occupied Houses, Good Condition	25
Number of Occupied Houses, Fair Condition	25
Number of Occupied Houses, Poor Condition	38

Area 2

Number of Occupied Houses	260
Number of Occupied Houses, Good Condition	108
Number of Occupied Houses, Fair Condition	82
Number of Occupied Houses, Poor Condition	70

Area 3

Number of Occupied Houses	52
Number of Occupied Houses, Good Condition	7
Number of Occupied Houses, Fair Condition	18
Number of Occupied Houses, Poor Condition	27

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations (1) for arbitrary values of the parameters α and β . It is shown that the system has solutions for arbitrary values of the parameters α and β if and only if the condition $\alpha + \beta = 1$ is satisfied.

2. In the second part of the paper the problem of the existence of solutions of the system of equations (1) for arbitrary values of the parameters α and β is solved. It is shown that the system has solutions for arbitrary values of the parameters α and β if and only if the condition $\alpha + \beta = 1$ is satisfied.

3. In the third part of the paper the problem of the existence of solutions of the system of equations (1) for arbitrary values of the parameters α and β is solved. It is shown that the system has solutions for arbitrary values of the parameters α and β if and only if the condition $\alpha + \beta = 1$ is satisfied.

4. In the fourth part of the paper the problem of the existence of solutions of the system of equations (1) for arbitrary values of the parameters α and β is solved. It is shown that the system has solutions for arbitrary values of the parameters α and β if and only if the condition $\alpha + \beta = 1$ is satisfied.

Table 19

Condition of Abandoned Houses
Prowers County

County

Number Abandoned Houses	346
Number Houses in Ruins	201
Number Houses not in Ruins	145

Area 1

Number Abandoned Houses	107
Number Houses in Ruins	73
Number Houses not in Ruins	34

Area 2

Number Abandoned Houses	164
Number Houses in Ruins	90
Number Houses not in Ruins	74

Area 3

Number Abandoned Houses	75
Number Houses in Ruins	38
Number Houses not in Ruins	37

1

SUBSIDIES

Table 20

Federal Payments
Amounts Outstanding for Period 1933-1937
Prowers County

Source: From each agency concerned	
: Type of Payment Received	: Amount in Dollars
Loans	
Federal Land Bank*	1,053,554
Regional Agricultural Credit Corp.	32,337
Emergency Crop and Drought Loans	88,286
Production Credit Assoc'n	30,021
Rural Rehabilitation Loans	<u>195,869</u>
Sub-Total	1,400,037
Grants	
Rural Rehalitation Grants	88,434
A.A.A. Payments	533,519
A.C.P. Payments	175,399
A.A.A. Livestock	235,212
C.W.A.	275,292
W.P.A.	460,790
F.E.R.A.	<u>785,473</u>
Sub-Total	2,554,119
Grand Total	3,954,156
Total Emergency Payments	
(*Excluding above because of good security)	2,870,581
Emergency Payments Per Capita	
(Population from census of 1930)	194

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research.

2. The second part of the report is a detailed description of the methodology used in the study. It includes a discussion of the data sources, the sampling method, and the statistical techniques used to analyze the data.

3. The third part of the report is a presentation of the results of the study. It includes a discussion of the findings and a comparison of the results with the previous research in the field.

4. The fourth part of the report is a discussion of the implications of the study. It includes a discussion of the theoretical and practical implications of the findings and a discussion of the limitations of the study.

5. The fifth part of the report is a conclusion. It summarizes the main findings of the study and provides a final statement on the importance of the research.

6. The sixth part of the report is a list of references. It includes a list of all the sources used in the study, including books, articles, and other documents.

7. The seventh part of the report is an appendix. It includes a list of all the data used in the study, including the raw data and the data that were used in the analysis.

APPENDIX B

SAMPLE FARM SCHEDULE USED

LAND USE SURVEY

PROWERS COUNTY

1911

1912

1913

1914

Bureau of Agricultural Economics
Division of Project Organization
OPERATOR'S SCHEDULE
(Dry Farm Land)

Oper. Name _____ Date _____
Address _____ Twp _____ Range _____
State _____ 2. County _____ 3. Area _____ 4. Schedule No. _____
5. Residence _____ 7. Tenure _____ 9. No. Yrs. Region _____ 11. Oper. Age _____
6. Type of Farm _____ 8. No. Yrs. Farm _____ 10. Size of Farm _____ 12. Condition of Farmstead _____
13. Acres Owned _____ Acres Rented _____ 15. Acres Total _____

LAND USE

16. Wheat _____ 20. Sorghums _____ 24. Cover Crop _____ 28. Tame Pasture _____
17. Barley _____ 21. Hay _____ 25. Fallow _____ 29. Other _____
18. Corn _____ 22. Cotton _____ 26. Idle _____ 30. Total _____
19. Broom Corn _____ 23. Beans _____ 27. Native Pasture _____

ACREAGE SEEDING TO WHEAT:

31. Cg. _____ 32. Cu _____ 33. CuCr _____ 34. CuCgb _____ 35. CuCf _____
36. CuCa _____ 37. Total _____

PRINCIPAL CROPS

CORN, WHEAT, BARLEY, etc. _____ : FEED CROPS _____
38. Kind _____ 39. Acres _____ 40. Total A. _____ 41. Kind _____ 42. Acres _____ 43. Total _____

LIVESTOCK (Total A. U.)

BREEDING STOCK				FEEDERS			
: Up to: 1-2: 2 yrs: A. U.				: Up to: 1-2: 2 yrs: A. U.			
: 1 yr.: Yrs: & over:				: 1 yr.: Yrs: & over:			
44. Cattle	:	:	:	48. Cattle	:	:	:
45. Sheep	:	:	:	49. Sheep	:	:	:
46. Swine	:	:	:	50. Swine	:	:	:
47. Total	:	:	:	51. Total	:	:	:

OTHER

52. _____ : Up to: 1-2: 2 yrs: A. U. _____
: 1 yr.: Yrs: & over: _____
52. Dairy Stk. _____ : _____ : _____
53. Horse & Mu. _____ : _____ : _____
54. Poultry _____ : _____ : _____
55. Total _____ : _____ : _____

INVENTORY OF FACILITIES:

56. Power Line _____	60. Water-Dwell _____	64. Upright Silo _____	68. Combine _____
57. Home Unit _____	61. Telephone _____	65. Auto _____	69. Source Dom. _____
58. In Home _____	62. Radio _____	66. Truck _____	Water _____
59. In Bldg. _____	63. Trench Silo _____	67. Tractor _____	70. Depth Well _____
			71. Source Stock _____
			Water _____

72. No. Members on Farm _____ 73. Employables (16-65) _____
74. Man-Wk. Days Employ. Exclu. of Wk. Relief _____ 75. Income from this _____
76. Prev. Occu. before Settling in Region _____ 77. State _____ 78. Town _____
79. Original Breaking (This Farm) _____

CROP RECORD (Operator's Record on This Farm) 80. Good _____ 81. Fair _____ 82. Poor _____
83. Failure _____
28. _____ 29. _____ 30. _____ 31. _____ 32. _____ 33. _____ 34. _____ 35. _____ 36. _____ 37. _____

TENANCY

Type of Rent:	Acres:	Amount:	Duration:	Landlords	Address	Relationship
:	:	:	: of Lease:	Name	:	:
:	:	:	:	:	:	:
:	:	:	:	:	:	:
:	:	:	:	:	:	:

SOIL CONSERVING PRACTICES: (Acres)

84. Contour _____ 85. Terrace _____ 86. Chisel _____ 87. Strip Crop _____ 88. Cover Crop _____

RECOMMENDED TYPE OF FARMING

Type : Total Acres: Pasture: Small Grain: Row Crops: Fallow : Livestock:
: : : : : :

GOVERNMENT LOANS AND SUBSIDIES

89. Agri. Conserv. _____	92. Seed Loans _____	95. R.R. Grants _____
90. Wheat _____	93. Feed Loans _____	96. Work Relief _____
91. Cotton _____	94. R.R. Loans _____	97. Direct Relief _____

(Enumerator's Signature) _____

(Checker's Signature) _____

98. Children Attending School and of Pre-School Age

<u> :0-2: 3 : 4 : 5 :6-10:10 &:Total</u> <u> :Yrs:Yrs:Yrs:Yrs:Yrs.:Over:</u> <u>Children: : : : : : :</u>	No. Attending School _____ School District (Number and Name) _____
---	--

99. Factors limiting the capacity of the operated unit to support a farm family:

Order of Importance

- _____ 1. None
- _____ 2. Size of Unit
- _____ 3. Insufficient Grazing Land
- _____ 4. Crop land severely damaged by erosion
- _____ 5. Pasture land badly depleted by over-grazing, erosion,
or lack of moisture
- _____ 6. Lack of control of land
- _____ 7. Insufficient number of livestock
- _____ 8. Crop land unsuitable for crop production
- _____ 9. Too much crop land to be economically farmed
- _____ 10. Insufficient crop land
- _____ 11. Lack of feed storage
- _____ 12. Lack of water
- _____ 13. Inadequate machinery

100. Probable normal gross annual cash income from farm _____

101. Present land use

1. Cg _____
2. Cu _____
3. Cr _____
4. Ca _____
5. Pn _____

APPENDIX C

RESULT - COLORADO EXTENSION SERVICE
PLANNING MEETING

WIC-1.

WIC-1. (continued)

AGRICULTURAL PROGRAM
RECOMMENDED AND AGREED UPON BY COMMITTEES OF LOCAL FARMERS
FOR DRYLAND SECTION OF PROWERS COUNTY

The following dryland set-up was recommended and agreed upon by the farmers and land owners of Prowers county, and is to be used as a guide or goal for operators and land owners to work toward in order to make dryland farming safer and more stable in the future.

The minimum size of a dryland farm was recommended to be 2,700 acres, carried out as a livestock operator, 700 acres of this being devoted to crop and 2,000 acres to grazing land. Any smaller unit than 2,700 acres was considered uneconomical.

Cropping System

Wheat.....	200 acres.
Summer fallow (protected).....	200 acres.
Cane or other sorghums.....	290 acres.
Broomcorn.....	10 acres

The wheat acreage would be reduced in sandy soil areas and the feed crop acreage would be increased. One tractor and three horses were recommended in carrying on farming operations.

The livestock set-up recommended in connection with the 2,700 acres dryland unit is as follows: Dairy cows, 20; Brood sows, 2; Laying hens, 200; Cattle, 100 or Sheep, 500.

1. The first part of the document is a letter from the President of the United States to the Congress, dated January 3, 1861.

2. The second part is a report from the Secretary of the Interior, dated January 10, 1861.

3. The third part is a report from the Secretary of the Treasury, dated January 10, 1861.

4. The fourth part is a report from the Secretary of the War, dated January 10, 1861.

5. The fifth part is a report from the Secretary of the Navy, dated January 10, 1861.

6. The sixth part is a report from the Secretary of the Army, dated January 10, 1861.

7. The seventh part is a report from the Secretary of the State, dated January 10, 1861.

8. The eighth part is a report from the Secretary of the War, dated January 10, 1861.

9. The ninth part is a report from the Secretary of the Navy, dated January 10, 1861.

10. The tenth part is a report from the Secretary of the Army, dated January 10, 1861.

11. The eleventh part is a report from the Secretary of the State, dated January 10, 1861.

12. The twelfth part is a report from the Secretary of the War, dated January 10, 1861.

13. The thirteenth part is a report from the Secretary of the Navy, dated January 10, 1861.

14. The fourteenth part is a report from the Secretary of the Army, dated January 10, 1861.

15. The fifteenth part is a report from the Secretary of the State, dated January 10, 1861.

16. The sixteenth part is a report from the Secretary of the War, dated January 10, 1861.

17. The seventeenth part is a report from the Secretary of the Navy, dated January 10, 1861.

18. The eighteenth part is a report from the Secretary of the Army, dated January 10, 1861.

Dryland Program

1. Problems

A. Grazing Land

1. There is no definite control over open range. Fifty-five percent of open range land is not in operating units. Everyone uses range and tries to get all grass possible with the result that range is abused; thereby inducing loss of vegetative cover, and consequent erosion by wind and water. Foreign livestock are brought in by individuals having water holes or wells and owning very little range land and allowing this livestock to run on range needed by residents.
2. Too small units are under control.
3. Taxes are too high on range land to permit ranchers to own or lease land for grazing purposes.
4. Lack of feed reserves except on a few ranches where some grass can be held in reserve for winter pasture.
5. Number of animal units are too few to provide adequate stable income.
6. Uncontrolled cultivated land causes damage to surrounding pasture land. Much of land that is broken is not in operating units.

II. Solutions to above problems.

1. Grazing land

- a. Gain control over range land by establishing a herd law if possible.
- b. Increase size of unit by obtaining long time leases on adjacent range land.

1. The first part of the report is a general
description of the project. It includes the
purpose of the study, the scope of the work,
and the methods used. The second part is a
detailed description of the results of the
study. It includes a discussion of the data
collected, a comparison of the results with
previous studies, and a conclusion about the
significance of the findings.

2. The second part of the report is a
detailed description of the results of the
study. It includes a discussion of the data
collected, a comparison of the results with
previous studies, and a conclusion about the
significance of the findings.

3. The third part of the report is a
detailed description of the results of the
study. It includes a discussion of the data
collected, a comparison of the results with
previous studies, and a conclusion about the
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detailed description of the results of the
study. It includes a discussion of the data
collected, a comparison of the results with
previous studies, and a conclusion about the
significance of the findings.

5. The fifth part of the report is a
detailed description of the results of the
study. It includes a discussion of the data
collected, a comparison of the results with
previous studies, and a conclusion about the
significance of the findings.

6. The sixth part of the report is a
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collected, a comparison of the results with
previous studies, and a conclusion about the
significance of the findings.

7. The seventh part of the report is a
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previous studies, and a conclusion about the
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collected, a comparison of the results with
previous studies, and a conclusion about the
significance of the findings.

9. The ninth part of the report is a
detailed description of the results of the
study. It includes a discussion of the data
collected, a comparison of the results with
previous studies, and a conclusion about the
significance of the findings.

- c. Get range land reclassified so that taxes will not be too high.
- d. Where supplemental feed is required, two acres of feed crops should be planted for each head of livestock to insure proper feed reserves.
- e.. One hundred animal units was considered the minimum number to supply adequate income for ranch operators.
- f. Get abandoned plowed land under control through establishing Soil Erosion Districts.

2. Farm land

- a. Control wind erosion by use of cover crops. Cover crops suggested were broomcorn, sudan grass, and other sorghums. It was agreed that a stubble ten to twelve inches high was better to control wind erosion than the whole stalks left standing.
- b. Summer fallow was not recommended on sandy soil as it encourages wind erosion. Summer fallow could be recommended on harder soil types if properly handled, and left in lister ridges in fall if not enough moisture is present to warrant planting of fall grain. Two feet of soil moisture was considered to be the minimum requirement for the planting of fall grain.
- c. Conserve water run-off by:
 - (1) Contour farming
 - (2) Use of daming lister
 - (3) Terracing
 - (4) Listing
 - (5) Constructing spreader system
 - (6) Building checks in road bar-pits to make use of run-off water from roads.
- d. Overcome problem of moisture deficiency by planting drought resistant crops such as forage and grain sorghums and broomcorn instead of corn or wheat.

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- e. Sudan grass pasture is recommended as a desirable practice as it will improve the organic condition of the soil and will prevent erosion by wind if not pastured too severely.
- f. Control abandoned plowed land through the establishment of Soil Erosion Districts.

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Lamar, Colorado

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